

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

CROSSFLOW THROMBECTOMY CATHETER AND SYSTEM

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CROSSFLOW THROMBECTOMY CATHETER AND SYSTEM

CROSS REFERENCES TO CO-PENDING APPLICATIONS

None.

BACKGROUND OF THE INVENTION

5 1. Field of the Invention - The present invention relates
to apparatus for use in treatment of the human body. More particularly,
the present invention relates to an elongated device which may be a single
catheter assembly or a multiple component catheter assembly and which is
suitable for use through percutaneous or other access, for endoscopic
10 procedures, or for intraoperative use in either open or limited access
surgical procedures. Still more particularly, the present invention
relates to an elongated device in the form of a waterjet thrombectomy
catheter, hereinafter termed crossflow thrombectomy catheter, for
fragmentation and removal of thrombus or other unwanted material from
15 blood vessels or body cavities that uses high velocity saline (or other
suitable fluid) jets to macerate the thrombus or other unwanted material.
The elongated device bears certain similarities to known waterjet
thrombectomy catheter constructions but differs therefrom in several
material respects, a major distinction being in the provision of means
20 which produce crossflow jets to create a recirculation flow pattern
optimized for clearing a large cross section of mural thrombus or other
similar material, the name crossflow thrombectomy catheter deriving from
this major distinction. Further, the present invention also relates to
a system constituted either by the combination of the elongated device
25 with both pressurized fluid source means and exhaust regulation means or
by the combination of the elongated device with only pressurized fluid
source means.

2. Description of the Prior Art - Waterjet thrombectomy
catheters have been described in which a distal-to-proximal-directed